Objectives: To discuss the clinical rules of TCM four diagnostic information and relevant indicators in qi-deficiency-blood-stasis syndrome of congestive heart failure, and consummate diagnosis criteria of the syndrome.
Methods: (1) Based on databases of CNKI (1980-2012) and VIP (1989-2012), related modern literatures on CHF were reorganized and analyzed, and syndrome factors were extracted from them. The pathogenesis and common syndromes of this disease got analysized. (2) 1694 CHF cases from grade 3 and first-class hospitals (from Dec, 2010 to Sep, 2012) were collected, with rank sum test, Spearman rank correlation analysis and factor analysis by SPSS18.0. The correlations in qi-deficiency-blood-stasis syndromes and age, sex, primary illnesses, lab index, major and minor symptoms had been studied. (3) 750 CHF cases from multicenter (from Dec, 2012 to Dec, 2013) were collected by applying TCM syndrome scale of congestive heart failure. The threshold values in clinic diagnosis of qi-deficiency-blood-stasis syndrome got determined by applying maximum likelihood method combined with ROC curve. The manifestations of tongue and pulse got analysized by logistic regression. Reference range of BNP also got described by the mean value and median.
Results: (1) Literature analysis indicates: Syndrome factors on disease location of CHF are the heart, kidney, lung, and the spleen. Factors on natures of this disease sorted from more to less is qi deficiency, blood stasis, yang deficiency, yin deficiency, yang exhausted, water retention, etc. The pathogenesis of CHF mainly is deficiency complicated with excess, and qi-deficiency-blood-stasis syndrome is the common pattern of this disease. (2) Retrospective analysis of clinical cases indicates: There are 367 cases of qi-deficiency-blood-stasis syndrome in 1694 CHF cases. It mostly can be seen in male patients aged 50-70 and female patients aged over 70 years old. The primary disease mainly is coronary heart disease. And it also has correlation with BNP. The major symptoms of it are chest suppression, palpitation, short breath, dark-red tongue, white fur and thin pulse. The minor one is thin fur. (3) Syndrome scale analysis showed: The diagnosis criteria of CHF qi-deficiency-blood-stasis syndrome is total score of related items is equal or greater than 76 points (sensitivity: 96.9%, specificity: 86.9%). The results of retrospective and prospective clinical assess showed the sensitivity and specificity was above 90%. The common manifestations of tongue and pulse are purple tongue with petechia and uneven pulse. And the reference range of BNP is from 209.33 to 316.57 pg/ml.
Conclusions: The essential syndrome of congestive heart failure is qi-deficiency -blood-stasis syndrome. The clinical distribution links to patients' age and gender. Congestive heart failure mostly develops from coronary heart disease. The syndrome scale of CHF has higher sensitivity and specificity, which is available to the clinical application.

GW25-e0878

Decreased plasma relaxin-3 levels in patients with chronic heart failure

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Objectives: Relaxin-3 has been found to alleviate isoproterenol-induced myocardial ischemia injury and have anti-fibrotic action. The role of endogenous relaxin-3 on chronic heart failure (CHF), however, remains unknown.
Methods: We investigated the levels of plasma relaxin-3 and their relationship to cardiovascular function in patients with CHF. We studied 31 patients who were admitted with CHF that was caused by left ventricular systolic dysfunction [New York Heart Association (NYHA) functional class III or IV] and 38 age-matched healthy subjects. Blood samples were taken at study entry, and the relaxin-3, relaxin-2 and N-terminal pro-brain natriuretic peptide (NT-pro BNP) were measured. Cardiac structure and function were measured by echocardiography.
Results: Relaxin-3 levels were significantly lower in CHF patients than in controls: the median plasma relaxin-3 concentration was 57.41 pg/ml (range, <49.56-64.42 pg/ml) in patients with CHF and 69.37 pg/ml (range, <63.90-72.97 pg/ml) in controls ($P<0.001$). However, no differences in relaxin-2 levels were observed between the CHF group and controls ($P=0.505$). The plasma levels of relaxin-3 positively correlated with total cholesterol ($r=0.39$, $P=0.032$) and NT-pro BNP ($r=0.39$, $P=0.032$) in patients with CHF. Plasma relaxin-3 concentration showed no statistically significant associations with other component traits in patients with CHF. Additionally, there was no correlation between the plasma concentrations of relaxin-3 and relaxin-2 in patients with CHF ($r=-0.25$; $P=0.174$).
Conclusions: We conclude that plasma relaxin-3 concentrations are decreased in CHF, though low endogenous relaxin-3 levels are only related to total cholesterol and NT-pro BNP.

GW25-e1165

Diagnostic and predictive value of serum galectin-3 in patients with chronic heart failure

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Objectives: Biological markers such as BNP and NT-proBNP have been widely used in evaluation of the incidence and severity of heart failure clinically. However, multiple mechanisms are involved in the pathophysiology process of heart failure, thus, a single marker may not be sufficient. Combination of several biological markers may be more reliable. Galectin-3 is a new biological marker, which may participate in the regulation of cardiac fibrosis and remodling. Therefore, it can be used in evaluation of the incidence and severity of HF, it can also be used to predict prognosis in patients with HF. In this study comparison of the level of serum galectin-3 in CHF and Control, correlation analysis between the level of serum galectin-3 and LA, LVD, LVEF and BNP in chronic heart failure were invested. Analyse and discuss the significance of serum galectin-3 in chronic heart failure. And compare of the diagnositic value of Galectin-3 and BNP for CHF in both the sensitivity and specificity.
Methods: Patients with chronic heart failure were recruited. The significance of heart failure was determined by NYHA classification II-IV. The level of serum galectin-3 was determined by sandwich ELISA. Echocardiography was performed to determine the diastolic left atrial diameter (LA), left ventricular end-diastolic diameter (LVD) and left ventricular ejection fraction (LVEF). Data were analyzed by SPSS 17.0, $P<0.05$ was considered statistically significant. Association of two sets of data was evaluated with Pearson correlation analysis. Receiver-operating characteristic (ROC) curve was used to analyze the prognostic value of galectin-3 or BNP for CHF.
Results: The level of serum galectin-3 was significantly higher in the CHF group compared with that in control; The differences of the level of serum galectin-3 between diffrernt sub-groups was statistically significant ($P<0.05$ and $P<0.01$). The level of serum galectin-3 was positively correlated with LA ($r=0.465$, $P<0.01$) and LVD ($r=0.643$, $P<0.01$), but negatively correlated with LVEF ($r=-0.788$, $P<0.01$). The level of plasma BNP was positively correlated with LA ($r=0.464$, $P<0.01$) and LVD ($r=0.633$, $P<0.01$), but negatively correlated with LVEF ($r=-0.799$, $P<0.01$). The level of serum galectin-3 was positively correlated with the level of plasma BNP ($r=0.855$, $P<0.01$). AUC was 0.808 when the level of serum galectin-3 was more than 8.61 ng/ml. The sensitivity to predict CHF was 77.1%, the specificity was 92.3%. AUC was 0.903 when the level of plasma BNP was more than 1011 pg/ml. The sensitivity to predict CHF was 81.6% and the specificity was 90.3%.
Conclusions: (1) The level of serum galectin-3 is related to the changes of left heart structure and function, indicating that galectin-3 may be involved in the process of left ventricular remodeling in CHF. (2) The specificity of galectin-3 is higher than BNP in predicting CHF, not the sensitivity.

GW25-e1372

Observation of effects of individualized rehabilitation guidance on patients with heart failure after myocardial infarction

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Objectives: To explore the influence of individualized rehabilitation guidance for improving heart function in patients with heart failure after myocardial infarction.
Methods: Enroll 106 hospitalized patients with heart failure after myocardial infarction in the study, 52 male, 54 female, aging from 68 to 75, cardiac function ranging from II to III levels. they all suffered from heart failure after myocardial infarction and were treated with strong heart diuresis therapy. All 106 cases were randomly divided into two groups (control group and vs. observation group), there was no statistically significant difference between them. Patients in control group were treated with routine nursing care during hospital stay, while for patients in the observation group, In addition to routine nursing instruction, individualized rehabilitation guidance was performed, including the rest and activity guidance, diet guidance, defecation guidance, medication guidance, psychological guidance, guidance of disease knowledge, and self-monitoring, et al. A 6 months follow-up was conducted after discharge. The monitoring indicators including 6 minutes walking distance, B-type natriuretic peptide. heart function in hospital and 6 months after hospitalization.
Results: 6 minutes walking distance in observation group increased significantly than the control group, the difference was statistically significant ($P<0.05$). The level of B-type natriuretic peptide decreased in 49 cases in the observation group, and in the control group that was 42, the differences was statistically significant ($P<0.05$).
Conclusions: Individualized inpatient rehabilitation guidance can help the patients build up a good way of life, ensure the treatment effect, improve the patient's heart function and life quality.

GW25-e4361

Change of the level of plasma homocysteine in patients with dilated cardiomyopathy

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Objectives: To explore change and clinical significance of the level of plasma homocysteine (HCY) in patients with dilated cardiomyopathy (DCM).
Methods: All subjects consisted of 116 consecutively hospitalized patients with DCM, including 92 male patients and 24 female patients, aged from 18 to 70 years old, whose average age was (47.4±12.7) years old and 30 age and sex matched patients with paroxysmal supraventricular tachycardia (non-attack period, without structural heart disease) as controls. Electrocardiogram, chest X-ray and echocardiography were routinely performed, as well as thyroid function and biochemical tests, and coronary arteriongraphy when necessary. DCM is still a diagnosis by exclusion of hypertension, coronary heart disease, rheumatic heart disease, congenital heart disease, diabetes mellitus, arteriosclerosis, etc. Blood samples were obtained to determine